## **EXHIBIT 4**

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November 16, 2015

Ms. Lisa Balderson
Senior Subrogation Claims Representative
Farm Bureau Insurance Co.
7373 W. Saginaw
Lansing, Michigan 48915

Re:

2014 New Holland T8.390 Tractor

Insured: New Flevo Dairy, Inc.

Claim #001-437440A Case #W215011F

Dear Ms. Balderson:

On October 5, 2015 you gave me a new referral involving a 2014 New Holland T8.390 Tractor that burned in a field while in operation, tilling the ground. You stated that you wanted me to perform a mechanical inspection as to the cause of the fire. You sent by e-mail the Property Loss Notice Report that listed the details of this loss.

The following are the particulars to this inspection.

Claim No.	001-437440A
Date of Loss:	September 30, 2015, Wednesday - 9:25 a.m.
Equipment	2014 New Holland T8.390 Tractor
	PIN #ZCRC04109
Implement	Brillion Deep Digger - Model Z117
	S/N 200613
Insured:	New Flevo Dairy, Inc.
	9650 Plank Rd.
	Clayton, MI 49235
Contact	Arno or Lisa Schot
	Phone: 517/403-8283
Operator of Tractor	Alfredo Barnal (Hispanic, does not speak
	English)
	Phone: 517/403-8283
Owner/Operator	Jake Schot
	Elkon, North Carolina
	Phone: 336/469-8653

Servicing Dealer	Burnips Equipment Company
•	15838 W. Carleton Rd.
•	Hudson, Michigan 49247
	Phone: 517/448-2071
Service Manager Burnips Equipment Co.	Jason Mills
	Cell: 406/209-4807
	Jasonm@burnips.com
CNH Expert	Bob Hawkens
	CNH Industrial
	6900 Veterans Blvd.
	Burr Ridge, IL 60527
	Desk Phone: 630/887-2001
	Fax: 630/887-3786
911 Responders	Clayton Fire Department
	Dover/Hudson - Clayton Fire Department
	11029 Center St.
	Clayton, Michigan 49235
	Fire Chief: Steve Nichelson
	Phone: 517/445-2617
Incident Report:	#0000190 - 9/30/2015

On October 6, 2015 at 9:55 a.m. I called Lisa Schot and left voice mail regarding an interview of the T8.390 tractor operator, owner Arno Schot and inspection of subject tractor. At 10:14 a.m. and 10:15 a.m. I received three text messages from Lisa Schot indicating the location of the subject tractor (off Sword Road south of Plank Road) and indicating that Amo Schot needs to leave by 12 noon. Research was performed through Tractorhouse.com to obtain photographs of this model and year tractor (2014 New Holland T8.390) to have the operator, Alfredo Bernal, explain the location where he first saw smoke and the events leading up to the fire. I left for New Flevo Dairy at 10:45 a.m.

I arrived at New Flevo Dairy at 12:35 p.m. and met with Arno Schot and tractor operator Alfredo Bernal, Another New Flevo Dairy employee, Juan Diego, assisted as an interpreter for Alfredo Bernal who is Hispanic and does not speak English. Alfredo was asked to explain the events of the day that led up to the discovery of the fire. Through Juan Diego he explained that they got the subject tractor back the night before the fire. They drove the New Holland T8.390 back from Burnips Equipment Co. in Hudson, Michigan, twelve miles from the farm. Repairs had been performed on the tractor at Burnips Equipment Company under warranty service.

On the morning of September 30, 2015 Alfredo filled the diesel fuel tanks and attached a Brillion Deep Digger implement to the rear of the 3-point hydraulic hitch of the subject tractor and drove to the field on the east side of Sword Road. Sword Road runs for one mile north and south between Plank Road and M34.

Alfredo said, through his interpreter, that he ran the tractor for 1 1/2 hours at full power (2150 engine RPMSs) while operating the deep digger seen in photograph 11 in the tab, "Photographs". The deep digger implement has four 3-foot blades that cut deep into the ground. Alfredo said he started to smell something burning and looked over to the right forward of the right rear drive tire and saw smoke. He stopped the tractor, shut off the engine and got out of the operator's cab. He went around the front of the tractor to the right side. He stated that smoke was coming out of the area between the air intake and exhaust stack pipes. Alfredo took off the air cleaner cover in an attempt to see where the smoke was coming from. I then showed Alfredo the enlarged 8½" x 11" color photograph of an exemplar 2014 New Holland T8.390 Tractor which I obtained from Tractorhouse.com.

Photograph 22 shows this photograph with the area where Alfredo indicated the smoke was coming out to be the area of the intake and exhaust stack pipes (highlighted in this photograph).

Arno Schot stated that his father, Jake Schot, was driving by when he saw the subject tractor stopped in the field off Sword Road. Arno said that Jake got into the tractor and started it up and drove it looking for water in the field. Jake Schot was contacted and a statement was taken by phone and recorded (with his permission), then transcribed. That transcription is included with this report.

In Jake Schot's recorded interview he stated that he drove into the field where the subject tractor was stopped. He saw the smoke and the diesel fuel leaking onto the ground and it was on fire on the ground. Jake then said he got into the tractor, put the controls into neutral to start the diesel engine and it started right up. He then raised the 3-point hydraulic hitch up to lift the Brillion Deep Digger so he could back the tractor out of the burning diesel fuel. Jake said he thought that there was water in the center of the low area of the field where he could back the tractor down into the water to extinguish the fire.

Jake said that the wind was very strong from the north, so he backed the tractor down to the center of the field close to the road hoping to find water. When Jake got to the bottom of the field where the ditch was located, he discovered that there was no water. He then stopped the tractor, shut the engine off and got out. He said he couldn't do anything because he had no fire extinguisher or water to put the fire out.

I asked Jake Schot how the tractor ran while he was backing up? Jake stated that it started up right away, plenty of power, and ran fine. He had to shut it off because he didn't have anything to put the fire out. Jake Schot has a Dutch accent, but we were able to transcribe the interview. This report includes an original voice audio copy of the telephone statement and a transcription in the supplemental report information disk.

This information is important because it demonstrates that the engine and fuel delivery systems were operational and not a cause of the fire. The distance traveled in the field was 649 feet to the final rest position. This position was measured from Sword Road to the east where the tractor's final rest position was located. Measurements were taken using a Stanley analog wheel from Sword Road to the first burn site, from the first burn site to the west, and then to the north to the second burn site (final rest position of the subject 2014 New Holland T8.390 tractor). Other measurements were taken to record the size of the burn site, the location of field debris, and burned ash from the subject tractor. These areas south of the tractor were where twigs and ash were preserved using ASTM E1188-11 Standard for the Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator.

On October 16, 2015, CNH Expert Bob Hawken requested that the air cleaner remains be preserved (which is a melted mass with only the retainer clips visible to distinguish that it was the air cleaner housing cover). The section tabbed "E1188-11" lists the three separate items that were collected for preservation on October 16, 2015 and four items collected on October 6, 2015. The section tabbed "Photographs" shows the items as

- 1. Debris under catalytic muffler (October 6, 2015)
- 2. Corn cob, diesel fuel soaked at #1 burn site (October 6, 2105)

- 3. Soil sample #1 burn site diesel fuel on ground (October 6, 2105)
- 4. Air filter element paper at #1 burn site (October 6, 2105)
- 5. Field debris—suspect burned (October 16, 2105)
- 6. Air cleaner housing debris at burn site #1 (October 16, 2105)
- 7. Field debris suspect burn ash (October 16, 2105)

Photographs 20 and 21 were taken on October 6, 2015 and record the burned crop debris discovered under the Tier 4 SCR Catalytic Converter that looks like a big muffler seen in Photographs 18, 19 and 20.

Photographs 41 and 42 show items secured on October 16, 2015 at the Experts Inspection with Bob Hawken. They are the twigs within the field that Bob Hawken stated were burned because the tractor was leaking burning diesel fuel onto the ground over a long period of time and distance. Photograph 42 shows that the twigs are dry and have changed in color with no evidence of burn smell or charring. It was raining on October 16, 2015 at the time these twigs were secured.

The narrated photographs will explain the discoveries made during this mechanical inspection as to the cause of the fire. There were several photographs and one movie clip obtained from Arno Schot's iPhone 6S. Three of these photographs are listed at the beginning of the Photograph section and show the burning subject tractor. The smoke is rising up and is seen moving southward rapidly. The movie clip included with this report shows the fast moving smoke which supports the fact that the winds of 19 mph were out of the north. The Brillion Deep Digger and the hydraulic 3-point hitch, along with the rear of the drive tires, were not involved with fire or flame impingement.

Jake Schot backed the subject tractor to the west and then down the hill within the field so that the smoke and flames would be blown to the front of the tractor. Photographs 8, 9 and 10 show that the fire moved forward, fueled to accelerate the burn to the operator's cabin and the front of the tractor's engine and front drive wheel/tires.

Photograph 11 shows that the rear of the tractor and the Brillion Deep Digger implement were spared due to the high winds out of the north.

Photograph 16 shows a view of the Tier 4 SCR Exhaust Catalytic Converter assembly where the fire broke out as witnessed by the operator, Alfredo Bernal, and Jake Schot.

Photograph 19 shows the burn pattern on the surface radiating up from the base of the Tier 4 SCR Exhaust Catalytic Converter. The crop debris that was packed around the base of the exhaust converter burned upward to produce the burn pattern seen in Photographs 15, 16, 18, 19, 31 and 36.

The operator's cabin was inspected for cause of fire and it was determined that the fire damage was not the cause of this fire. The batteries and battery power cables were melted because of high flame—heat and were not the cause of this fire.

As the fire continued, the left fuel tank became involved, releasing the diesel fuel to accelerate the burn. This caused the operators cabin to catch fire. The hydraulic system became involved adding the hydraulic oil as an accelerant and fuel to this fire, but were not the cause of this fire.

Alfredo Bernal said he was operating the subject tractor for 1 ½ hours at full power which is 2150 engine RPMs. The heat release into the exhaust system was at its maximum level for 1 ½ hours before the fire was discovered as smoke and then fire flame and diesel fuel on fire on the ground.

A cause to support the burn pattern was discovered seen in Photographs 19 and 20. A sample of the burned crop debris collected (seen under the exhaust converter) was secured using E1188-11 Standard for the Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator and is available for review and test inspection.

On October 6, 2015 I continued this mechanical inspection (investigation) at the servicing New Holland Dealership, Burnips Equipment Company in Hudson, Michigan. I met with Service Manager Jason Mills who agreed to assist me by allowing an inspection of the company-owned 2013 T8.390 rental tractor.

Jason Mills showed me the two harness repairs that they performed on the subject tractor during the week of the fire. They replaced an electronic cable harness to the operator's console that had been damaged by the operator's seat when the seat was pivoted. He also showed me the OEM engine harness they replaced due to the heat build-up and impingement made by the location of the hot turbo exhaust.

I asked Jason Mills if he would allow me to photograph the removal of the front cover attached to the right side fuel tank and Tier 4 SCR Exhaust system. Jason said that he would remove the cover while I photographed. Photograph 26 shows Jason Mills removing the cover and Photograph 27 shows the crop debris build-up packed at the base of the Tier 4 SCR Exhaust Catalytic Converter and resting onto the diesel fuel tank. Also seen in Photograph 27 is crop debris resting on top of the Exhaust Catalytic Converter.

This 2013 New Holland T8.390 Exemplar Tractor has 252 hours of operation. The subject 2014 New Holland T8.390 Tractor, when it left Burnips Equipment Company on September 29, 2015, had 1802 hours of operation.

The SCR stands for Selective Catalytic Reduction Exhaust. The New Standard Tier 4 Regulation sets the limits on low emission combustion. This new Tier 4 Standard allows for high engine cylinder temperature to combust the carbon particulate in the cylinder to eliminate the presence in the downstream exhaust. The high cylinder temperature produces high levels of nitrogen oxides in the exhaust gas and converts the nitrogen oxide to water (H<sub>2</sub>O) and Nitrogen (N<sub>2</sub>) through the catalytic converter that is mounted in the exhaust chamber which is mounted on the right side platform forward of the right rear drive tire. This is the area of the origin of the fire. This process within the exhaust system uses high engine cylinder temperature (1800°F or more) to make this chemical reaction—thus the available heat source for pyrolysis of the crop debris and the ignition source to ignite the crop debris into flame of fire. I have included a tab, "SCR Exhaust System" for your review to better understand this ignition source.

The build-up over time of crop debris in this enclosed area around and on top of the Tier 4 SCR Exhaust Catalytic Converter has the potential to produce the process of pyrolysis by which the first step—dry the moisture out of the crop debris—and then with the available heat impingement cause a chemical reaction to the cellulose which will lower the flash point as much as 150° to 200°F. This will cause the collected crop debris to become an unintended fuel that will burn and melt the diesel fuel tank made of high density polypropylene plastic. This melting will release diesel fuel onto the burning cellulose crop debris and accelerate the fire.

The subject tractor was being operated for 1½ hours at full throttle—2150 engine RPMs—creating an elevated heat release temperature rate sufficient to ignite the pyrolized crop debris.

Photographs 24 and 25 show the opening at the top of the fuel tank and Tier 4 SCR Exhaust assembly. This opening is not guarded nor protected to prevent crop debris from entering or from being collected over time—that presents the potential for a fire. This is a

foreseeable condition—farm tractor being used on a farm in harvest fields of alfalfa, wheat, straw, silage and corn all of which produce crop debris made of cellulose.

Photograph 28 shows the heat insulation jacket that is placed around the 16-inch circumference exhaust pipe routed form the turbo exhaust to the Tier 4 SCR Exhaust Catalytic Converter. It was discovered that there is an area at the base of the 90° angle exhaust pipe welded to the catalytic converter that can expose the collected and packed crop debris to elevated temperature which will ignite the cellulose and flame into fire.

The fact that the design incorporates a diesel fuel tank wrapped around and mounted below the Exhaust Catalytic Converter is a very high risk for a fueled fire—to accelerate a fire with diesel fuel. The fact is that this tractor is operating in locations where the opportunity for rapid response by fire departments is not available.

Photographs 31 through 37 show the results of fire damage that can be compared to the inspection Photographs 27 and 28 to establish the result of fire due to the design of an open access to allow crop debris collection in this area.

I asked Jason Mills whether New Holland's Operators Manual states that the cover for the Tier 4 SCR Exhaust System must be removed to allow for cleaning of the collected crop debris over certain time periods or for regular maintenance. Jason reviewed the Operators Manual and said that there is no such requirement. I received a copy of the Operators Manual and reviewed it to discover that New Holland doesn't require this area to be cleaned or the cover to be removed on a regular basis. I have included a CD copy of the 2014 T8.390 New Holland Operators Manual for your review as a supplemental attachment.

Photographs 39 and 40 show that the Tier 4 SCR Exhaust Catalytic Converter was protected, wrapped and secured for future test inspection before the subject remains of the T8.390 New Holland Tractor was removed from the field on November 3, 2015 by L & S Ag Repair to be secured at their facility in Unionville, Michigan.

## Conclusion:

The last three photographs (43, 44 and 45) show the subject T8.390 tractor wheel tracks, first burn location, and final rest position being measured to demonstrate the distance Jake Schot operated the subject tractor proving that the tractor's systems were functioning.

After collecting the empirical data (facts) as to where the eyewitnesses Alfredo Braman and Jake Schot saw the smoke protruding from the opening between the air intake and exhaust pipe stack, then the leaking diesel fuel escaping form the right fuel tank, this data was analyzed as to the area of the origin of the fire.

The burn patterns supported the facts that burning crop debris was the cause of the burn pattern seen on the exterior surface of the Tier 4 SCR Exhaust Catalytic Converter starting at the base and moving up and around the surface.

The fact that the presence of burned crop debris was found at the base and below the catalytic converter supports the hypothesis that the cause of this fire was the collection of crop debris that caught fire behind the cover of the exhaust and fuel tank assembly.

The fact is that the subject 2014 New Holland T8-390 Tractor had been operated for 1½ hours at full throttle, 2150 engine RPMSs, which would produce the maximum heat release from diesel fuel—this became the ignition source for this fire.

The fact that the subject tractor was able to be started, operated, and driven in reverse after raising the implement at the hydraulic 3-point hitch demonstrates that the tractor was

functioning correctly within the engine, its fuel delivery system, gear selection (reverse) and hydraulic system.

The onboard electronics that operate the controls were functioning properly enabling Jake Schot to start and operate the subject tractor for a period of time—to travel 649 feet—and then shut the engine off.,

All of this empirical data is capable of being verified or known to be true.

The discovery of crop debris at and around the base of the Tier 4 SCR Exhaust Catalytic Converter base supports the fact that a fire originated within the enclosed compartment of the diesel fuel tank and Tier 4 SCR Exhaust Catalytic Converter system.

The witness statements as to the location of the protruding smoke, plastic fuel tank (susceptible to melting which released diesel fuel from the right fuel tank to ignite) all support that the origin of the fire is this area around the base of the Catalytic Converter and packed around the engine exhaust pipe and heat insulation jacket. The burn patterns support the fact that the crop debris was ignited by the heat of the exhaust system and due to time (1802 operational hours) the process of pyrolysis whereby even in the absence of oxygen the crop debris material decomposed and a chemical reaction took place by breaking down the molecular compounds and changing the cellulose to a carbon structure that will self-ignite at a lower temperature than that required for the ignition of cellulose (400°F).

The hypothesis is supported by the empirical data collected with no serious challenge. The test inspection of the exemplar 2013 New Holland T8.390 Tractor revealed the presence of crop debris collected within the exhaust/fuel tank assembly in 252 hours of operation.

It is the opinion of this technical expert to an engineering degree of certainty that the point of origin of the fire is the area within the exhaust fuel tank assembly at and around the catalytic converter. The cause of the fire is the collection of crop debris entering into this area through the opening where the exhaust and air intake stack pipes meet the top of the fuel tank/exhaust cover assembly. The process of pyrolysis was a contributing factor for a lower flashpoint for the crop debris assisted by the prolonged power cycle of the diesel engine to produce the sufficient heat source for the ignition of the cellulose debris.

I am presently investigating another 2012 New Holland T8.330 fire within the same location as the subject 2014 New Holland T8.390 and will write a supplemental report when the test inspection is completed.

I reserve the right to add to or change my opinion as new empirical data (facts) become available.

Thank you for the opportunity to be of assistance in this matter.

Sincerely,

William C. Wilson